

ART. VII.—Notes on some New Zealand Land Shells, with Descriptions of new Species. By Professor F. W. HUTTON.

[Read before the Philosophical Institute of Canterbury, 7th June, 1883.]

Plates IX.—XI.

I HAVE divided this paper into two portions, the first containing descriptions of the animals and dentition of species that have already been described, the second containing descriptions of new species. In the first part I have arranged the species according to the Manual of New Zealand Mollusca (1880), and under the same names as there given, although the dentition proves in many cases that this arrangement is quite wrong. I hope shortly to offer a paper containing a new and more natural grouping of all our Land Mollusca.

A. Old Species.

PATULA PILULA, Reeve (= *iota*, Pf.). Pl. ix, fig. κ., and pl. xi., fig. μ.

Jaw arcuate, with about 35 flat ribs, which indent the concave but not the convex margin.

Dentition, 27-1-27, varying from 25 to 29. Laterals from 13 to 15.

Central tooth small, narrower in front than behind, longer than broad, the reflexed portion constricted at the sides, covering about half the base, with a rather large acute point. First lateral like the central but larger; the other laterals with a deep notch on the outer side of the reflexed portion, the cutting point increasing in length outwards. Marginals broader than long, the inner with a cutting point and a denticle on each side of it; the outer serrated, one of the inner points longer than the others.

Hab. Auckland (T. F. Cheeseman).

PATULA DIMORPHA, Pfeiffer. Pl. ix., fig. ν.

Jaw slender, slightly arcuated, with about 35 flat ribs which indent both surfaces.

Dentition, 35-1-35, with 18 laterals in a large specimen. In smaller specimens the number of teeth is sometimes as few as 22 with 10 laterals.

Central tooth with the base narrower in front, longer than broad; reflexed portion narrow, two-thirds the length of the base, with a minute lateral cusp on each side, the point moderate. Laterals with the inner side of the reflexed portion sinuated, outer side with a short, broad, emarginate process, the cutting points longer than on the central tooth. Marginals at first longer than broad, but near the exterior broader than long; the inner with a bidentate point; the outer also with a bidentate point, and one or two smaller ones outside it.

Hab. Auckland (T. F. Cheeseman).

PATULA CELINDE, Gray. Pl. ix., fig. o, and pl. xi., fig. v.

Jaw slightly arcuate, with flat ribs; very delicate.

Dentition, 18-1-18. Laterals about 5.

Central tooth rectangular, as broad as long; the reflexed portion tricuspid, extending over half the base, with a large, clavate, median cusp extending quite to the posterior margin, and with a rather large cutting point. Laterals like the central tooth. Inner marginals with an oblique reflexed portion carrying a long point at the end, the outer side indented and with a minute point. Outer marginals broader than long, with two points; at first the inner point is much the larger, but near the outer edge both points get equal.

Hab. Auckland (T. F. Cheeseman).

The shell has distant membranaceous plaits which are produced at the periphery into triangular processes.

PATULA COMA, Gray. Pl. ix., fig. c, and pl. xi., fig. κ.

Animal small, mantle rather posterior, the tail not produced behind the shell; eye-peduncles large, clavate, approximated at their bases; the tentacles short. Yellowish-white, eye-peduncles and a stripe down each side of the head dark purple.

Jaw finely striated, arcuated, not tapering, with a slight median projection.

Dentition, 13-1-13; varying from 12 to 15. Laterals 4 or 5.

Central tooth with the base broader than, or as broad as, long; the reflexed portion slightly contracted near the attachment, and tricuspid; the median cusp with a long point reaching beyond the posterior margin of the base. Lateral teeth similar to the central, but with a longer base, and a shorter reflexed portion. Marginals with a tridentate cutting point, which is bidentate on the penultimate and absent on the minute outer tooth.

Hab. I have examined the radulas of seven individuals—five sent by Mr. Cheeseman from Auckland, and two by Mr. Helms from Greymouth. The living animal was sent by Mr. Helms.

In the shell the interstices between the ribs are finely striated with growth-lines.

PATULA LUCETTA, Hutton (= *coma*, Pfeiffer, not of Gray). Pl. xi., fig. α.

Animal like *P. coma*, but white; the peduncles purplish, and a band on each side of the head slightly speckled with purple.

Jaw smooth, membranous, slightly tapering to each end.

Dentition, 14-1-14. Laterals 6.

Central tooth rectangular, as long as broad; the reflexed portion less than half the base, tricuspid; the middle cusp with its point reaching to the posterior margin. Laterals about 6, the inner with the side-cusps

equal, and the middle cusp with a large point projecting beyond the posterior margin; in the outer laterals the inner cusp becomes obsolete. Marginals broader than long, with three points; the last without points, and the penultimate with only two points.

Hab. Hawke's Bay (W. Colenso).

The shell in this species differs from that of *P. coma* in having the ribs nearer together and the spire more elevated.

PATULA BUCCINELLA, Reeve (= *gamma*, Pf.). Pl. ix., fig. D.

Jaw finely striated, with a slight median projection.

Dentition, 10-1-10. Laterals 3 or 4.

Central tooth rectangular, longer than broad; the reflexed portion less than half the length of the base, tricuspid, the middle cusp with a short cutting point. The first three laterals like the central tooth, but the reflexed portion longer and the cutting point reaching the posterior margin of the base. Marginals broad, the inner ones with a bidentate cutting point at the inner corner; the last tooth minute, without any cutting point.

Hab. I have examined the dentition of three individuals from Auckland, and found it alike in all.

The shell in this species is broadly umbilicated, but the umbilicus varies a good deal; the spire is flat and the interstices between the ribs finely striated with growth-lines.

PATULA ANGUICULUS, Reeve (= *theta*, Pf.)? Pl. ix., fig. E.

Animal like that of *coma*; darkish-grey, the foot white with a grey patch on the back behind the shell.

Jaw membranous, very delicate.

Dentition, 11-1-11. Laterals 5.

Central tooth rectangular, the base as broad as long; the reflexed portion, tricuspid, the median cusp covering about two-thirds of the base and swollen at the end. The first two laterals are like the central tooth, but more elongated, and the median cusp reaching nearly to the posterior margin of the base: the outer laterals have a small cutting point on each of the side-cusps. Inner marginals with three points; outer marginals very broad and with 4 or 5 points.

Hab. Greymouth (R. Helms).

As I do not feel sure about the identification of this species I give a description of the shell.

Shell very broadly umbilicated, the spire almost flat: whorls $4\frac{1}{2}$, with nearly straight ribs, about 30 or 35 in the tenth of an inch, the interstices finely reticulated: aperture sub-vertical, lunately sub-circular. Colour dark reddish-brown, banded with horny. Greatest diameter .1; least .07.

PATULA IDA, Gray (*ide*). Pl. ix., fig. u.

Animal with the body rather short and narrow; mantle sub-central, rather anterior, slightly reflected over the peristome of the shell; foot narrow, extending behind the shell, the tail truncated and furnished with a mucous gland: no locomotive disc. Eye-peduncles very long, cylindrical, approximated at their bases; tentacles long. Colour pale olive-brown spotted with dark brown; a longitudinal dark brown line runs round the side of the foot, below which it is edged with alternate, transverse, bars of brown and pale olive-brown.

Jaw, with about 30 flat ribs, each transversely striated.

Dentition, 22-1-22. Laterals about 8.

Central tooth rectangular, longer than broad; the reflexed portion tricuspid, extending over a third of the base, the median cusp long and straight, but not reaching the posterior margin, the cutting point rather large, projecting beyond the margin; the side-cusps constricted on the outer side. Laterals like the central, but rather oblique, the outer side-cusps being larger than the inner. Inner marginals with a single bidentate cutting point; outer marginals broader than long, with several cutting points.

Hab. Greymouth (R. Helms).

PATULA CORNICULUM, Reeve (= *eta*, Pf.). Pl. ix., fig. f.

Animal like *coma*, but the eye-peduncles smaller and not clavate. White, slightly speckled with grey above; peduncles purplish.

Jaw finely striated.

Dentition, 14-1-14. Laterals 4 or 5.

Central tooth rectangular, longer than broad; the reflexed portion about half the length of the base, tricuspid, the middle cusp long, extending to the posterior margin and armed with a small point. Laterals like the central tooth, but the middle cusp more clavate. Inner marginals with one, and outer with three acute points.

Hab. Eyreton, North Canterbury (C. Chilton).

In the shell the interstices between the ribs are finely reticulated.

PATULA INFECTA, Reeve (= *zeta*, Pf.). Pl. ix., fig. h.

Animal like *coma*. White, eye-peduncles and a stripe on each side of the head greyish.

Jaw finely striated.

Dentition, 15-1-15. Laterals 3.

Central tooth rectangular, broader than long; the reflexed portion tricuspid; the side-cusps constricted on the outer side; middle cusp reaching to the posterior margin and the cutting point projecting beyond. First lateral like the central; the others smaller, bicuspid, the inner cusp small, the outer long, narrow, and with a small point. Marginals tridentate, the denticles nearly equal in size.

Hab. Greymouth (R. Helms).

The surface of the shell between the ribs is finely reticulated.

PATULA IGNIFLUA, Reeve (= *lambda*, Pf.). Pl. x., fig. H.

Animal with the mantle sub-central, slightly reflected over the peristome of the shell: tail pointed, with a caudal mucous gland, but no papilla; eye-peduncles approximated at their bases. White, with clusters of brown spots and an interrupted brown line round the sides, below which the margin of the foot is striped with brown and white transverse bands; a streak on each side of the head black; sole of the foot mottled with brown, arranged in irregular transverse bands, which slope backwards and form an obtuse angle in the centre.

Hab. Rangitira Bush, Temuka (C. Chilton).

For the jaw and dentition of this species see Trans. N.Z. Inst., xiv., p. 151.

PATULA TAPIRINA, Hutton. Pl. ix., fig. G.

Animal like *coma*; colour white; peduncles, tentacles, and a stripe down each side of the head purplish black.

Hab. Rangitira Bush, Temuka (C. Chilton).

For the jaw and dentition of this species see Trans., N.Z. Inst., xiv., p. 150 (*P. coma*).

PATULA PORTIA, Gray. Pl. ix., fig. T.

Jaw arched, not tapering, with about 34 flat ribs, or plates.

Dentition, 24-1-24. Laterals about 9.

Central tooth rather wedge-shaped, broader behind, longer than broad; the reflexed portion triangular, slightly constricted, not covering half the base, the point small; laterals rather oblique, broader than the central, the reflexed portion bicuspid with a long point on the inner cusp. They pass gradually into the marginals which are rather broader than long, with a long cutting point, and a small one on each side of it.

Hab. Auckland (Cheeseman).

PATULA VENULATA, Pfeiffer. Pl. xi., fig. V.

Jaw arched, with about 10 flat ribs in the centre; the ends striated.

Dentition, 17-1-17. Laterals 6.

Central tooth rectangular, longer than broad; the reflexed portion tricuspid, the lateral cusps small and constricted on the outer side; central cusp reaching nearly three quarters of the length of the base, the cutting point large. Laterals like the central, but broader, and the lateral cusps with points, of which the inner is the larger. The cusps get smaller, and the inner cutting point gets larger until the inner marginals have two, nearly equal, points and a small outside point. The outer marginals have the two points coalesced into a single bidentate point; while the outer point gets larger. The 17th marginal has only two small points.

Hab. Greymouth (R. Helms).

GERONTIA PANTHERINA, Hutton. Pl. ix., fig. i., and pl. xi., fig. r.

Jaw slightly arcuated, smooth, striated.

Dentition, 24-1-24. Laterals 8 or 9.

Central tooth rectangular, rather broader than long; the reflexed portion tricuspid, extending over half the base, the median cusp reaching the posterior margin; all the cusps with moderate cutting points. Laterals tricuspid, the outer side-cusps larger than the inner; each with a point. Outer laterals, or inner marginals, bicuspid, the outer cusp smaller; inner margin of the inner cusp emarginate and with a cutting point; a large acute cutting point at the end. Outer marginals longer than broad, with a broad bidentate point; the last without any point.

Hab. Greymouth (R. Helms).

The shell in this species is like *macrocyclis*, but the teeth are very different.

MICROPHYSA (?) PUMILA, Hutton. Pl. ix., fig. q.

Jaw, none seen.

Dentition, 13-1-13. Laterals (?).

Central tooth longer than broad; the reflexed portion tricuspid, the middle cusp longer and with a sharp point. Laterals bicuspid, the two cusps separated, each with a point; the inner cusp larger. Marginals apparently like the laterals, but they are too minute to be made out distinctly by me.

Hab. Christchurch (J. F. Armstrong).

STROBILA LEIODA, Hutton. Pl. ix., fig. p.

Jaw, none seen.

Dentition, 12-1-12. Laterals 4.

Central tooth rectangular, as broad as long; the reflexed portion small, tricuspid; middle cusp not reaching the posterior margin. Laterals larger, longer than broad, tricuspid, the middle cusp elongated, clavate, reaching the posterior margin. Marginals broader than long, the three inner with three minute points, the five outer without points.

Hab. Greymouth (R. Helms).

VITRINA DIMIDIATA, Pfeiffer. Pl. ix., fig. v, and pl. xi., fig. o.

Animal, in spirit, is very much larger than the shell; the mantle appears to be sub-central, or anterior, and is broadly expanded over the shell, leaving a central opening only, but not divided into lobes; there is no locomotive disc to the foot; the tail is pointed and without any appearance of a mucous gland.

Jaw slightly arched, strongly ribbed with about fifteen rounded ribs in the centre; striated towards the extremities.

Dentition, 26-1-26. Laterals about 10.

Central tooth rectangular, longer than broad; the reflexed portion tricuspid, short, but with a long middle cusp reaching nearly to the posterior margin, and with a short point. The first six laterals are like the central tooth, the seventh to ninth with the reflexed portion rather longer, and the inner side-cusps obsolete. Marginals broader than long, tridentate; the inner with the middle point longer than the others; the outer with the three points nearly equal.

Hab. Auckland (T. F. Cheeseman).

HELIX GREENWOODI, Gray. Pl. x., fig. p.

Jaw none.

Dentition, 10-0-10; varying from 9 to 11.

Transverse rows of teeth forming an acute angle. Teeth robust, all aculeate, smooth, increasing from the centre to the ninth, which is the largest; the tenth much smaller; the eleventh very minute or absent.

Hab. Auckland (Cheeseman).

RHYTIDA AUSTRALIS, Hutton. Pl. x., fig. s.

Jaw, none.

Dentition, 16-0-16.

Transverse rows of teeth forming an acute angle. Teeth slender, all aculeate, smooth, increasing from the centre to the fourteenth, which is the largest; fifteenth small; sixteenth still smaller, but present in both the individuals that I have examined.

Hab. Stewart Island (T. Kirk).

RHYTIDA CITRINA, Hutton. Pl. x., fig. r.

Jaw, none.

Dentition, 17-0-17.

Transverse rows of teeth forming an acute angle. Teeth slender, all aculeate, smooth, increasing in size from the centre to the fifteenth, which is the largest; sixteenth nearly as large as the fifteenth; seventeenth much smaller.

Hab. Greymouth (R. Helms).

RHYTIDA PATULA, Hutton. Pl. x., fig. q.

Jaw, none.

Dentition, 18-0-18.

Transverse rows of teeth forming an acute angle. Teeth robust, all aculeate, increasing from the centre up to the seventeenth, which is the largest; eighteenth very small. All the teeth smooth, except the seventeenth, which has an angular ridge running down the outer side.

Hab. Greymouth (R. Helms).

In specimens from Balclutha the dentition is 14-0-14.

PHRIXGNATHUS MARGINATUS, Hutton. Pl. ix., fig. s.

Jaw arcuate, not tapering, papillate, with about 28 broad ribs.

Dentition, 35-1-35. Teeth very minute.

Central tooth unicuspid, longer than broad; the reflexed portion minute. Laterals bicuspid; the cusps rather remote, and the reflexed portion small. Marginals apparently the same as the laterals, but too minute to make out clearly.

Hab. Greymouth (R. Helms).

HELIX REGULARIS, Pfeiffer. Pl. xi., fig. D.

Jaw arcuate, not tapering, papillate, with about 23 broad rounded ribs.

Dentition, 27-1-27. Laterals 18 or 20.

Central tooth rectangular, the length nearly three times the breadth; the reflexed portion covering only a third of the base, hollowed on each side. Laterals oblique; the reflexed portion covering a third of the base, bicuspid, the cusps close together; the inner cusp the larger and carrying the larger cutting point, which is long and pointed. Marginals quadrangular, broader than long, with several very minute cutting points.

Hab. Greymouth (R. Helms).

The shell is covered with a thin epidermis which is often ciliated round the keel of the last whorl.

HELIX PÆCILOSTICTA, Pfeiffer.

Jaw arched, not tapering, of 21 imbricating plates covered thickly with papillæ.

Dentition, 23-1-23. All the teeth longer than broad and the reflexed portion very short. Central tooth unicuspid; laterals and marginals rather oblique, bicuspid, with small points.

HELIX CONELLA, Pfeiffer.

Jaw not seen.

Dentition, 38-1-38. As in the last species.

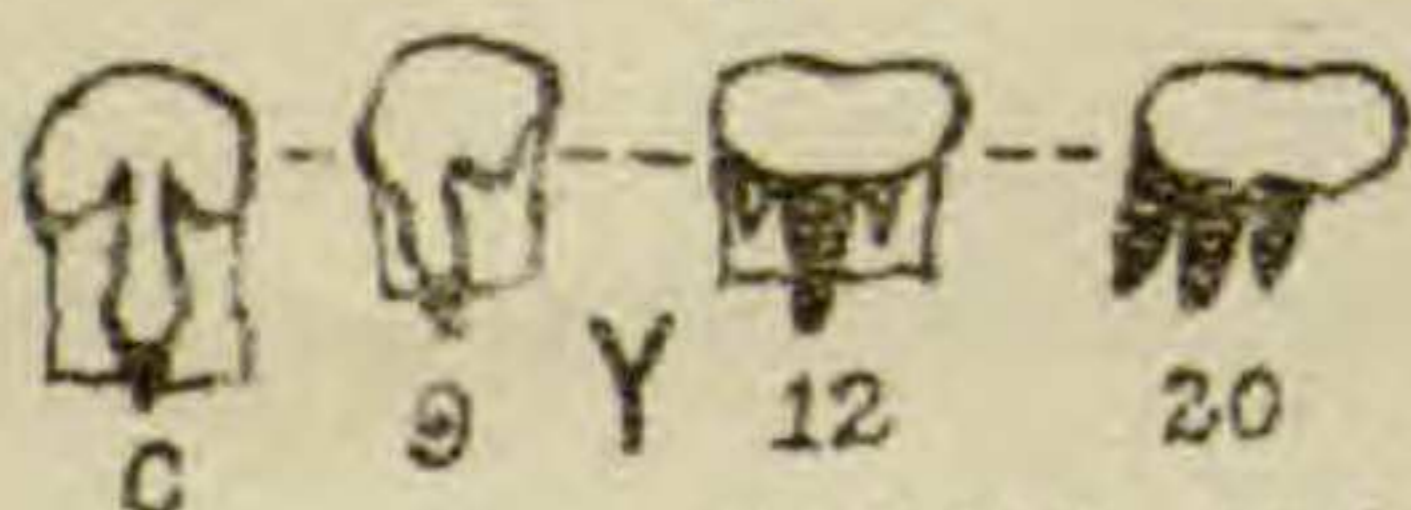
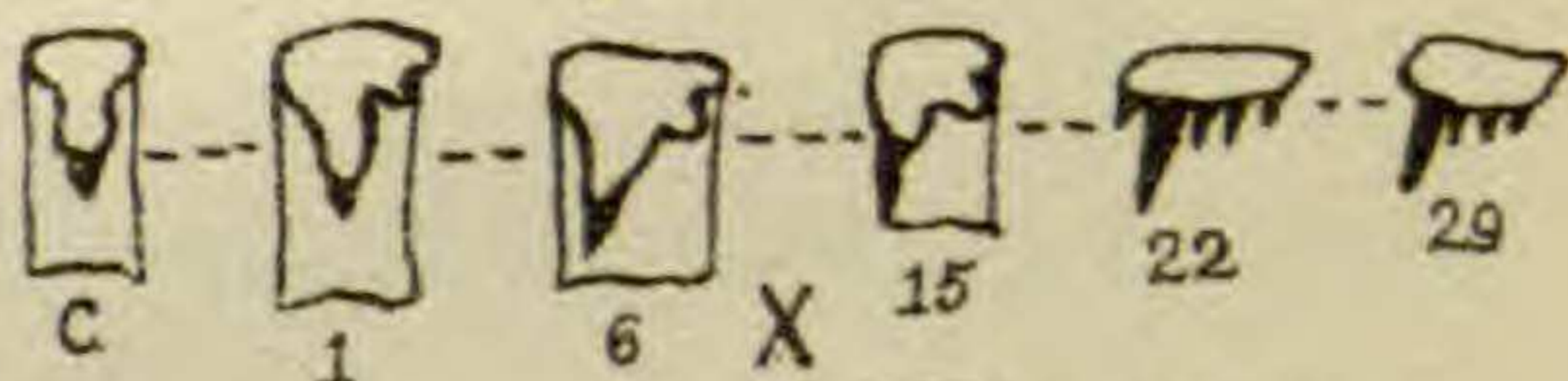
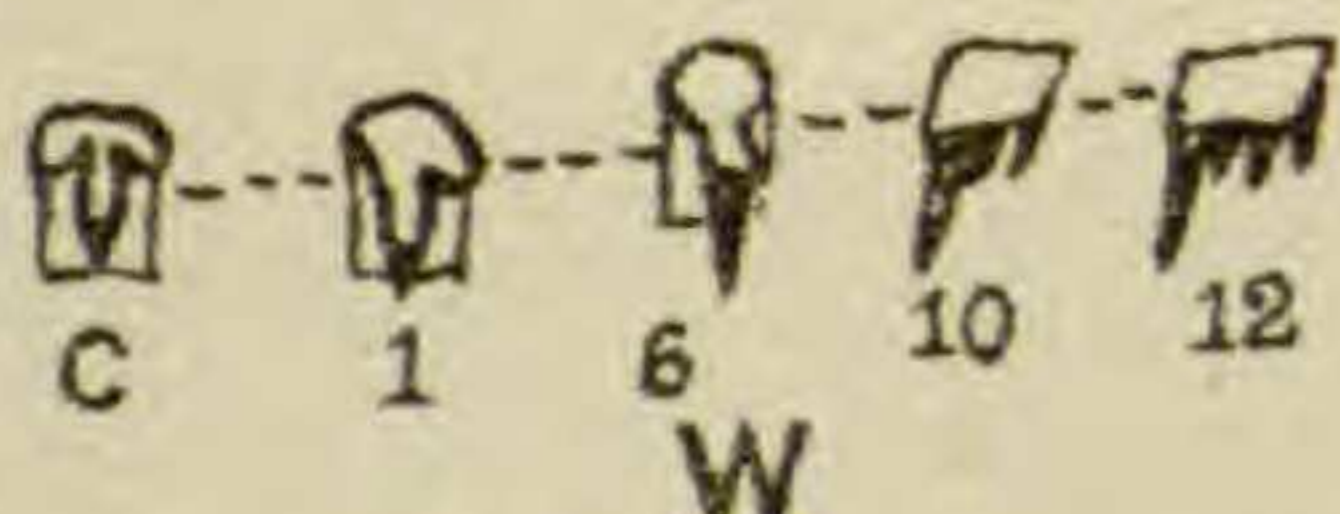
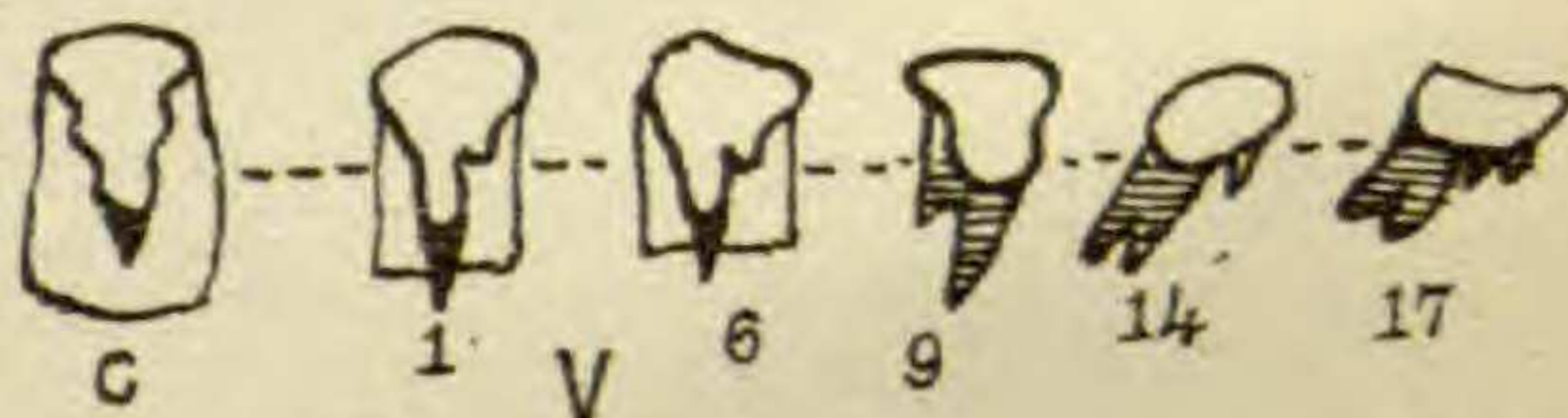
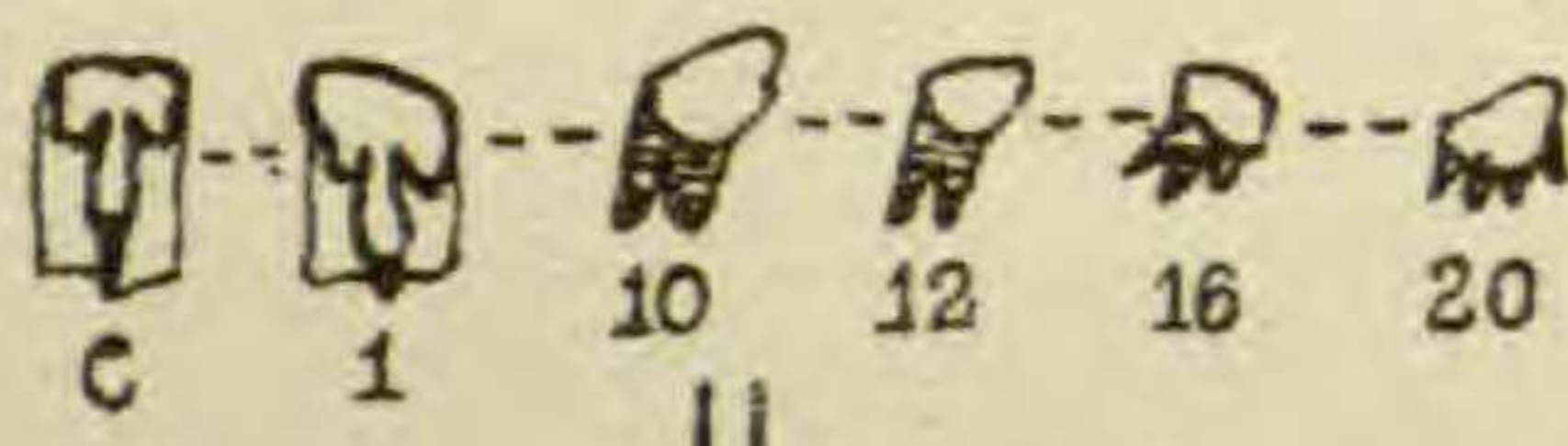
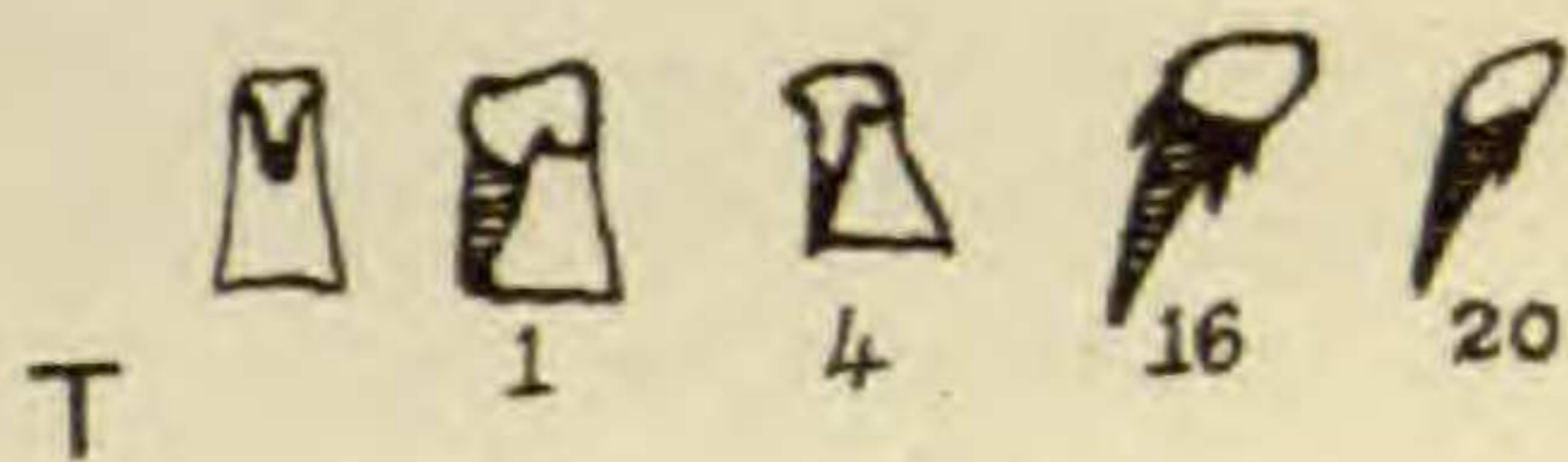
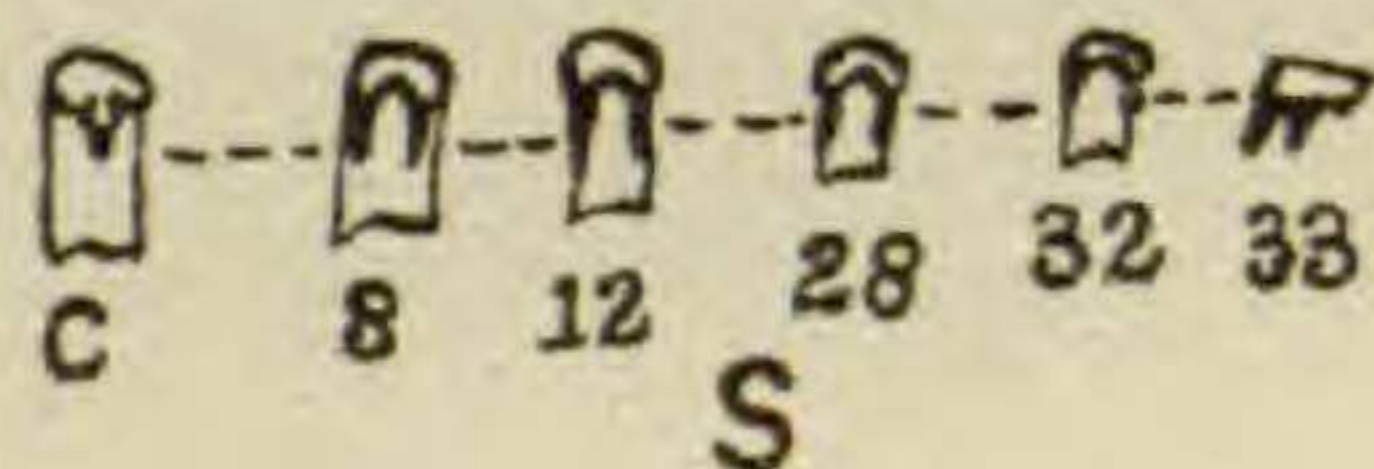
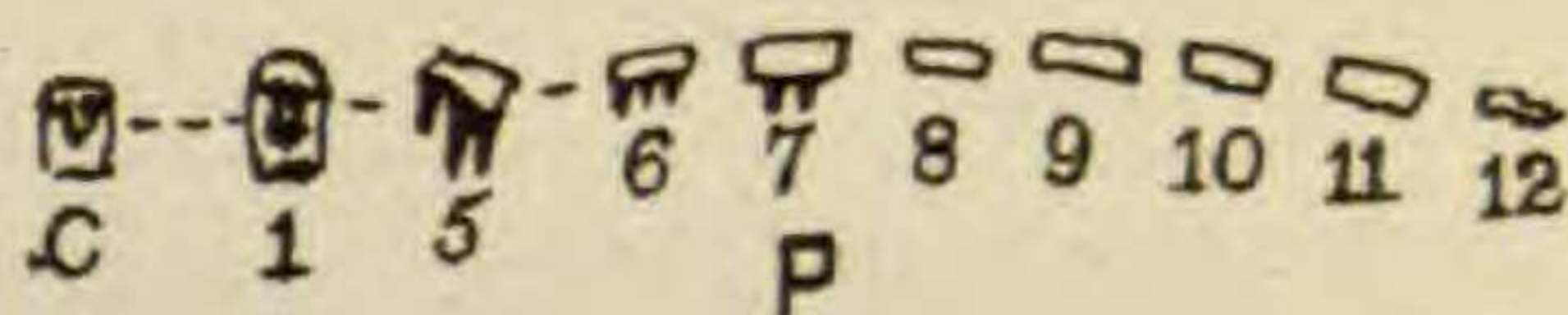
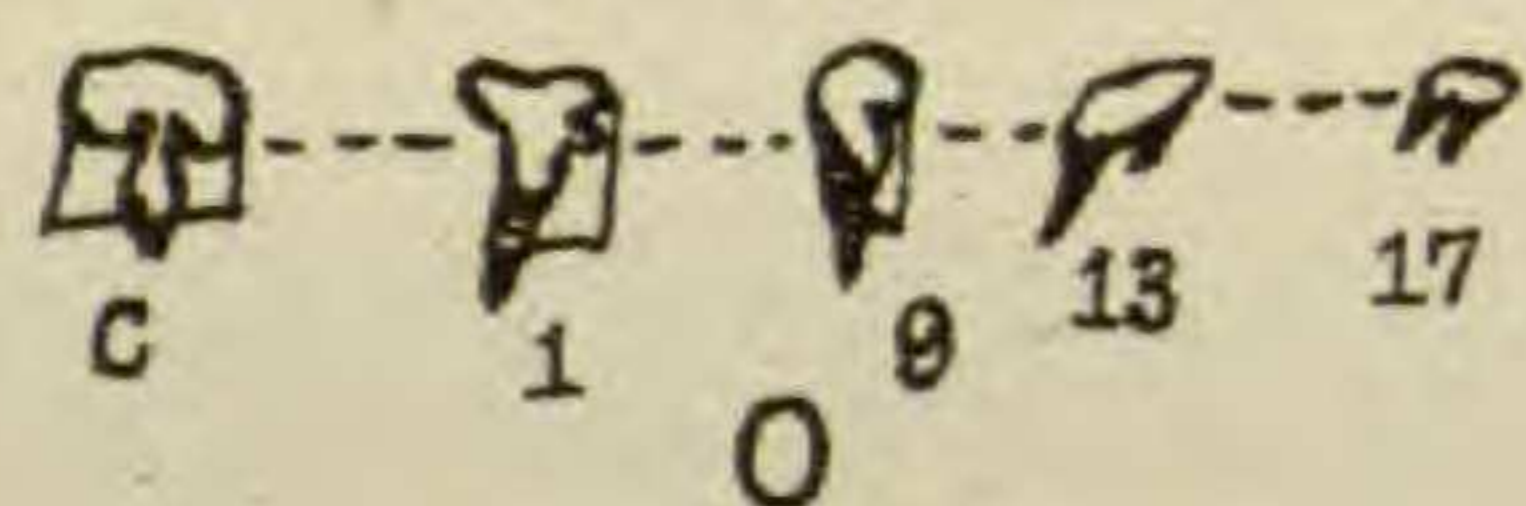
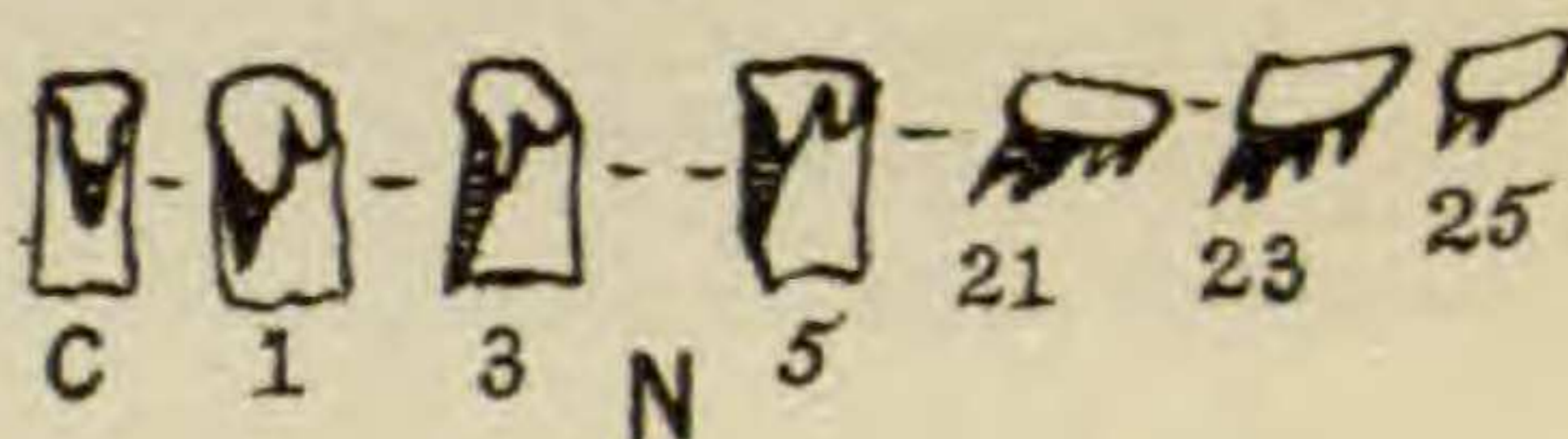
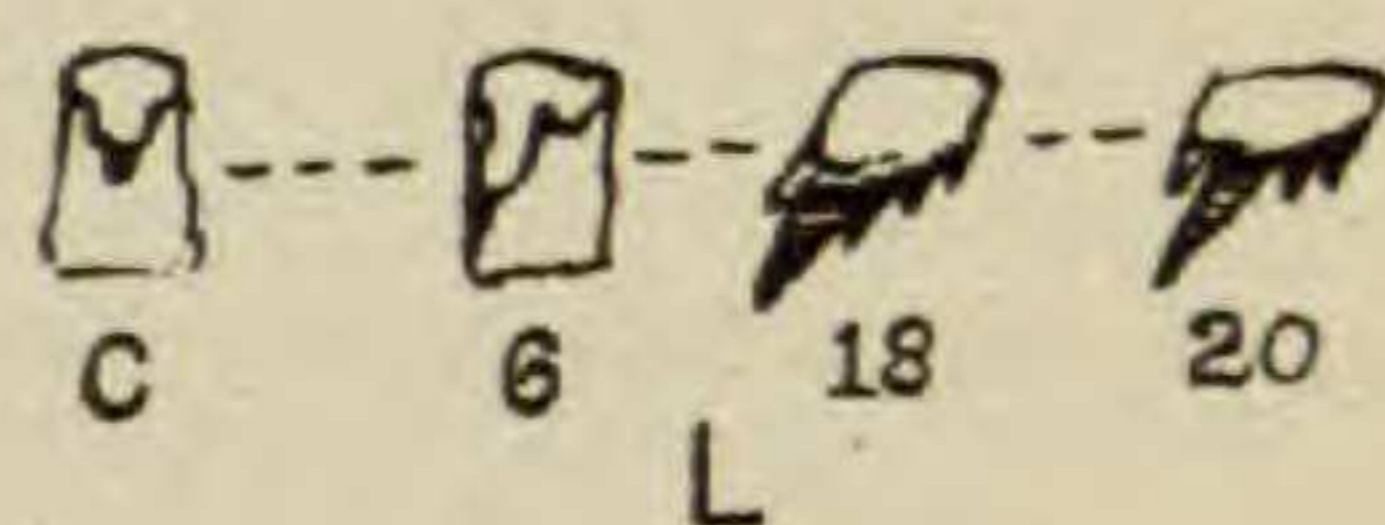
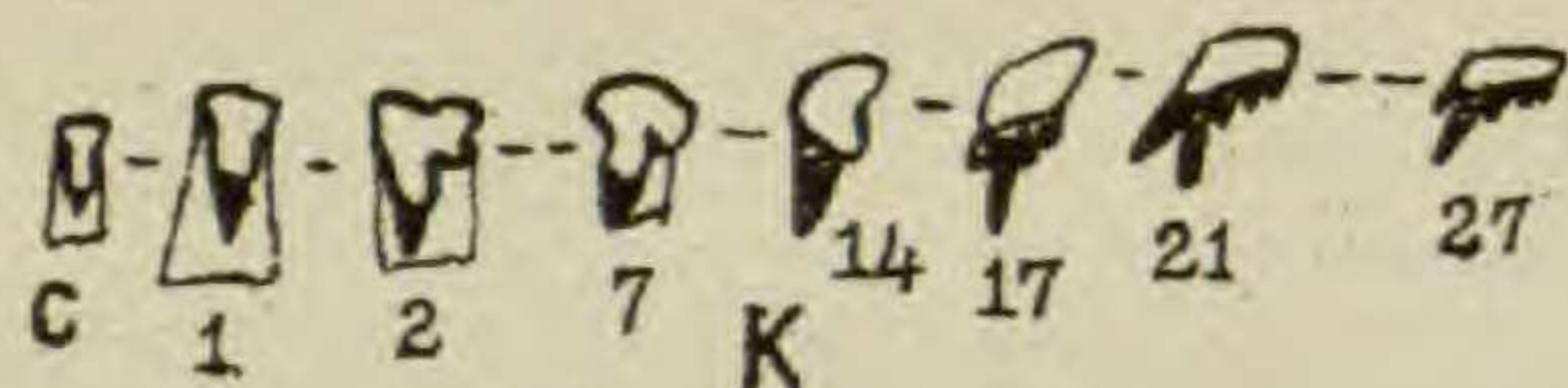
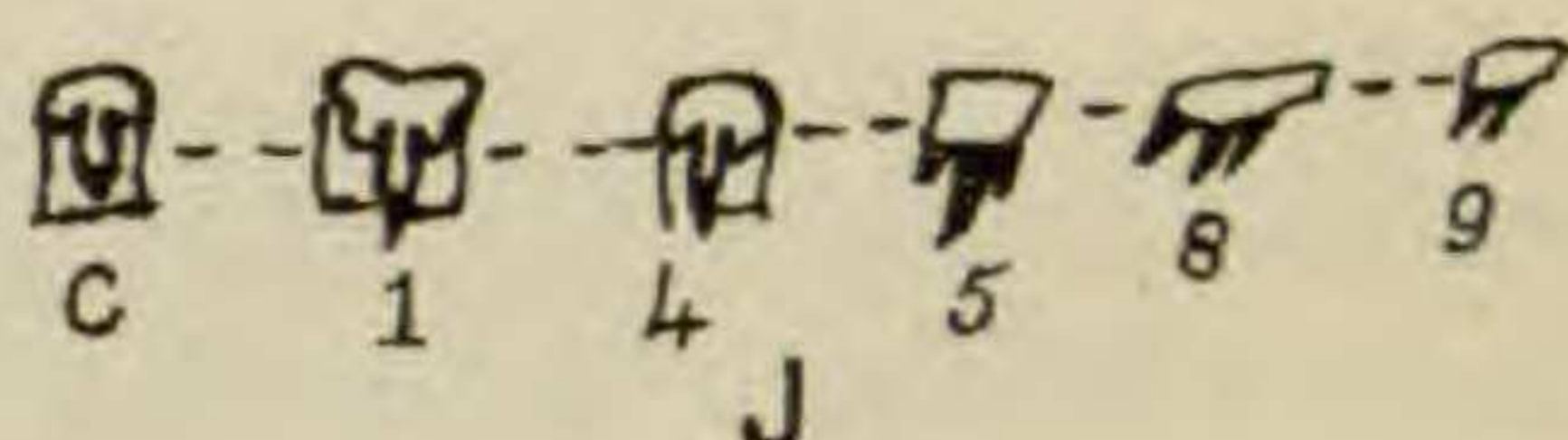
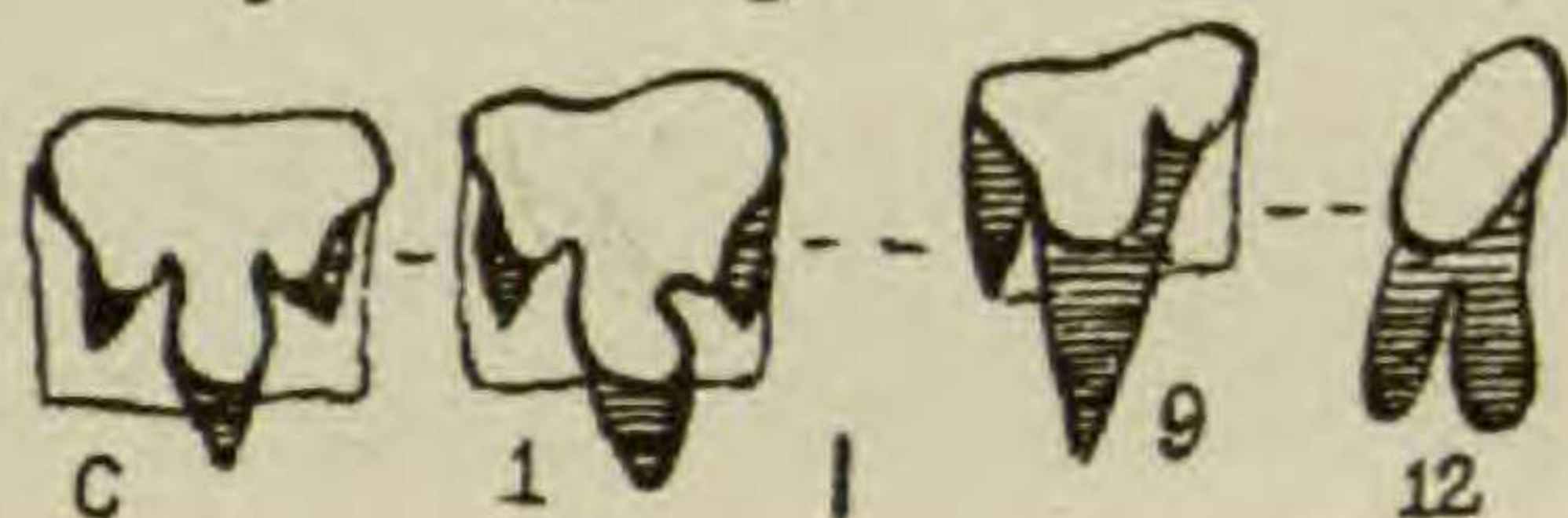
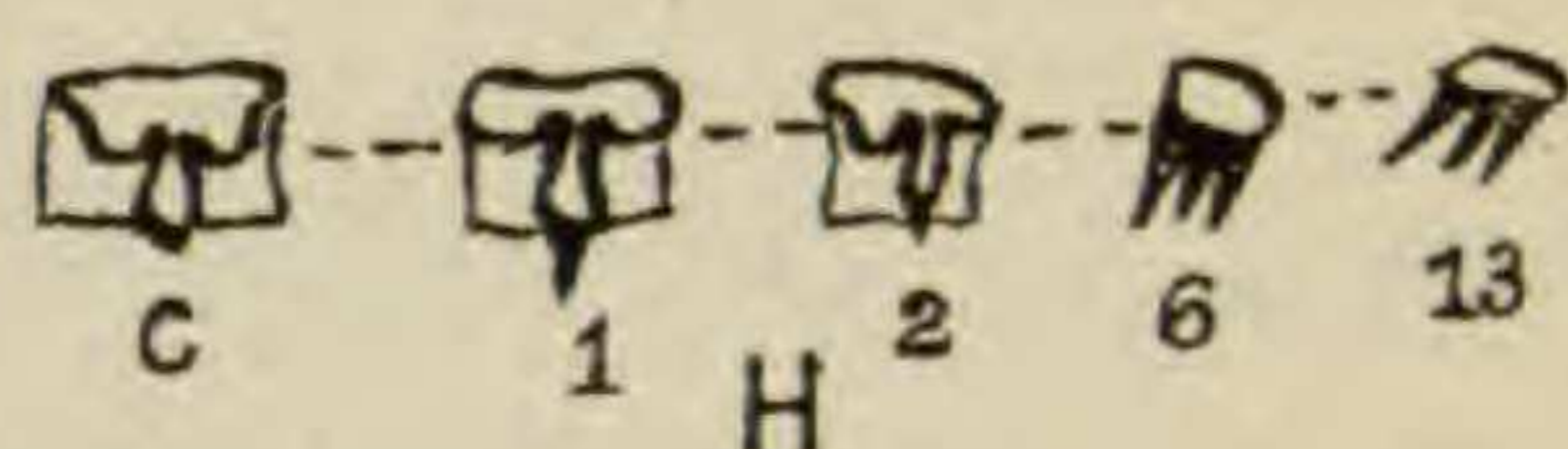
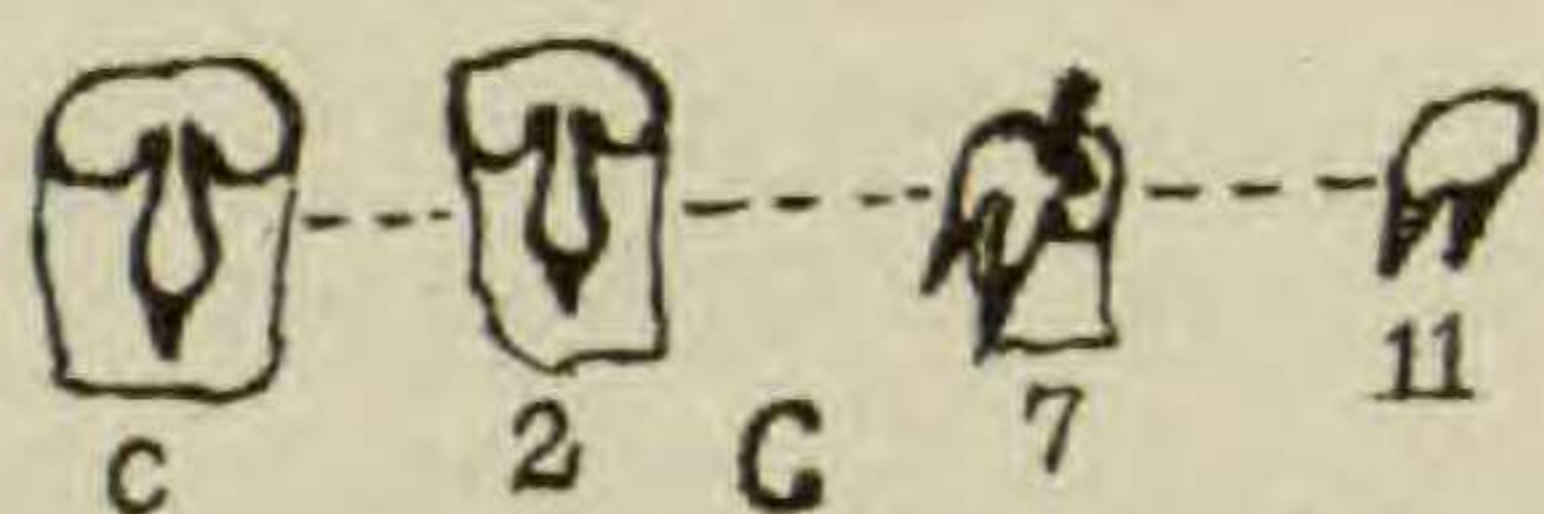
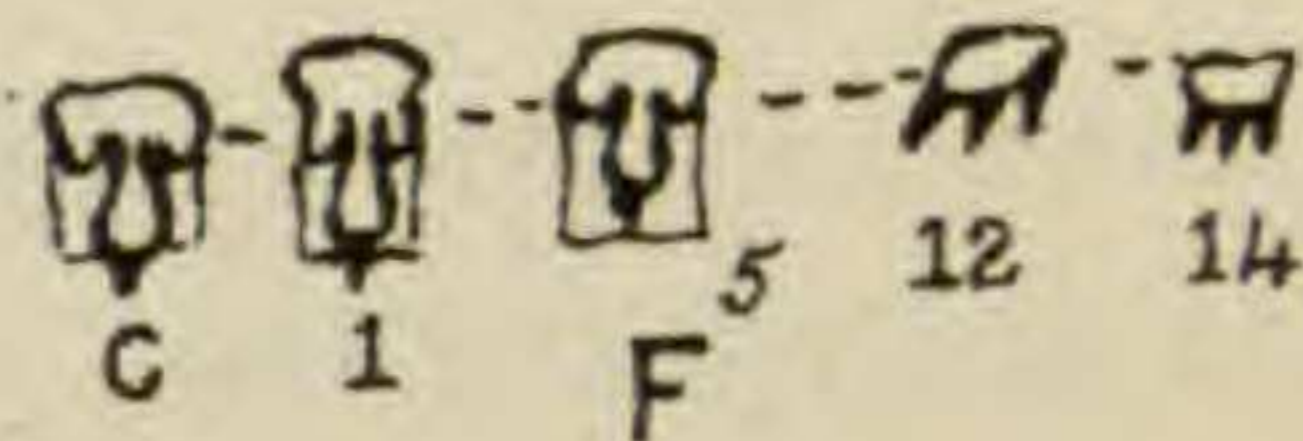
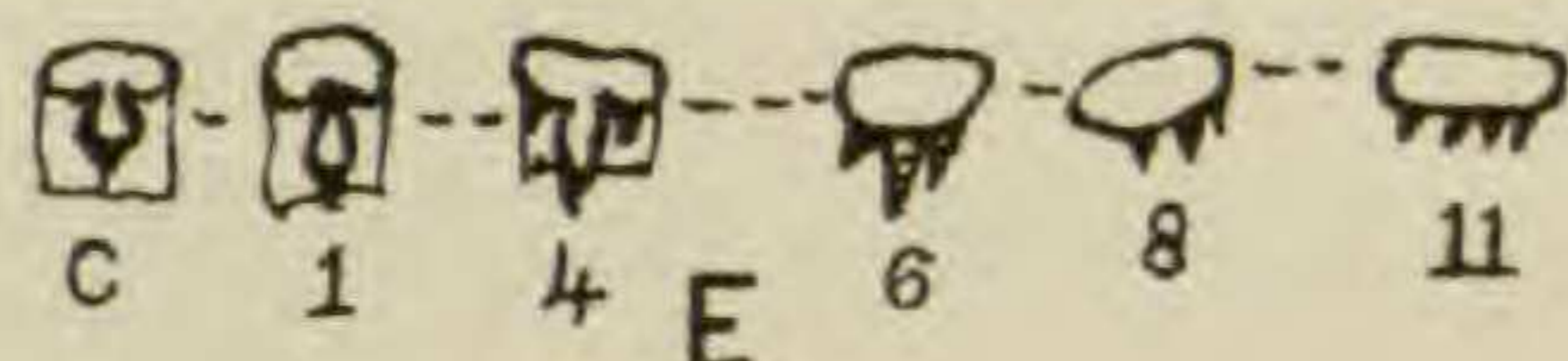
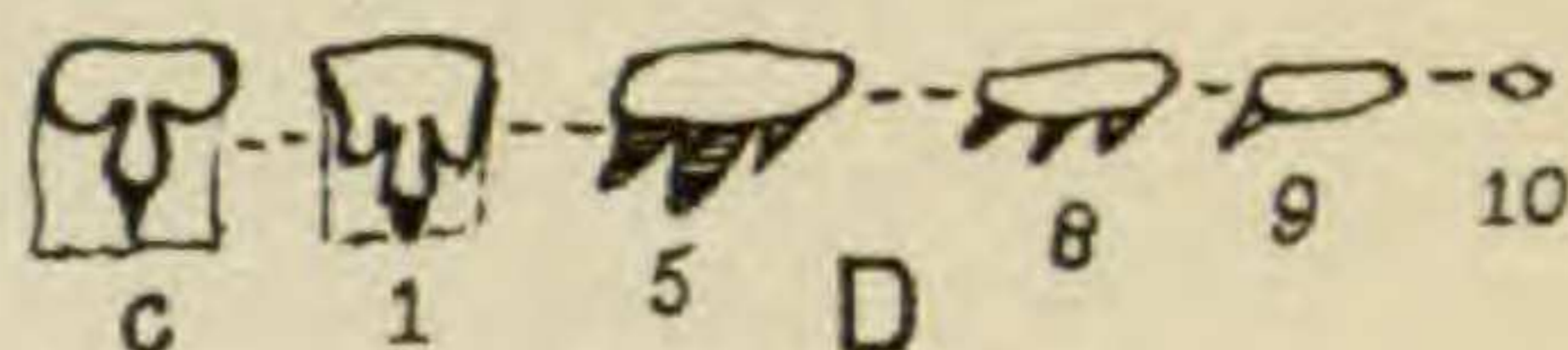
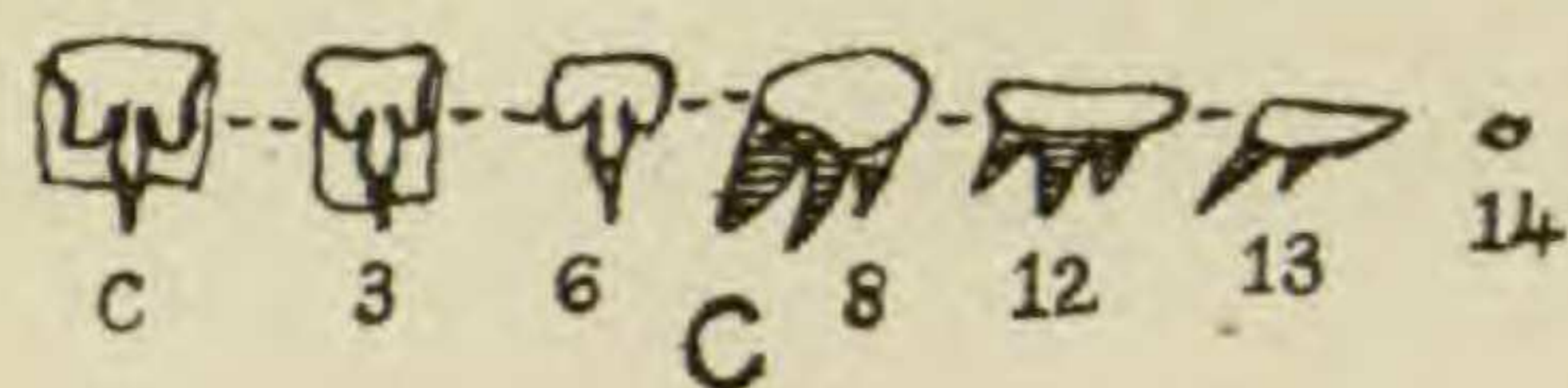
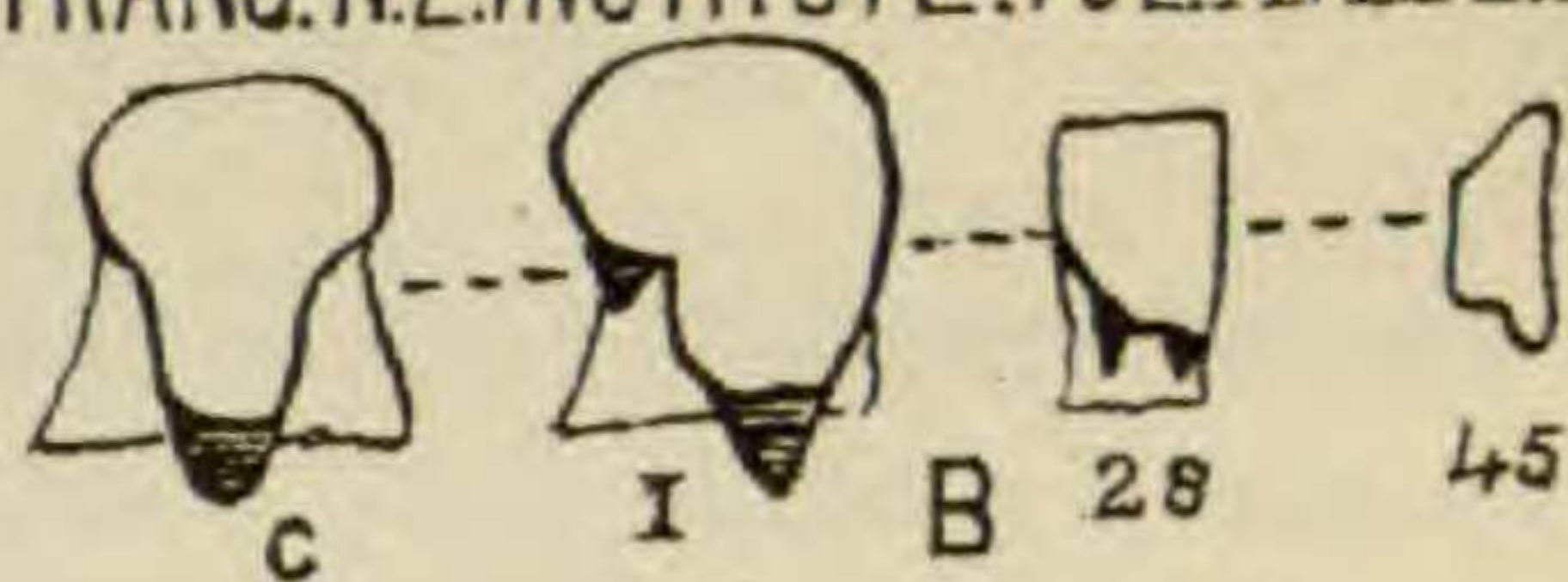
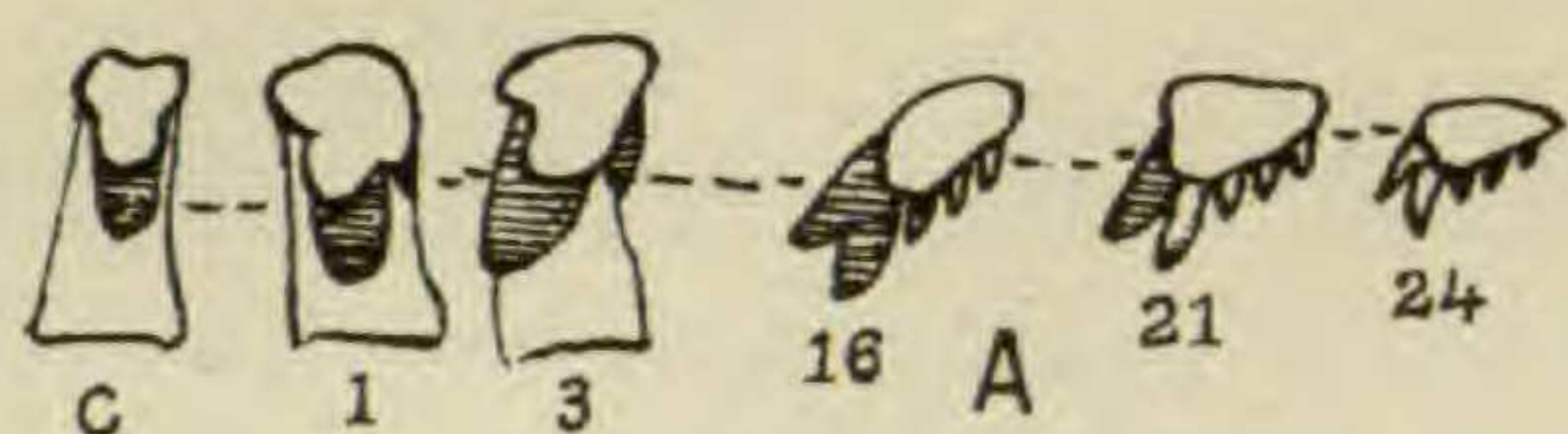
HELIX STIPULATA, Reeve (= *alpha*, Pf.). Pl. xi., figs. B. and L.

Animal like *P. coma*; mantle subcentral, slightly reflected over the peristome; eye-peduncles long and cylindrical; tail short, pointed, and without any mucous gland. Colour pale brown, with a broad slate-blue band on each side of the head, including the peduncles.

Jaw slightly arched, not tapering, smooth, slightly longitudinally striated; the anterior edge concave with a jagged margin.

Dentition, 12-1-12. Laterals 3 or 4.

Central tooth rectangular, as broad as long; the reflexed portion tricuspid, the middle cusp reaching two-thirds of the length. Laterals tricuspid, the side-cusps constricted on their outer sides, the middle cusp



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reaching the posterior margin, the cutting point projecting beyond it. Marginals broader than long; the inner with three cutting points; the three outer very broad, with two small points at the inner corner.

Hab. Rangitira Bush, Temuka (C. Chilton).

The shell is hairy, but the hairs rub off when the animal is dead.

HELIX ZEALANDIÆ, Gray. Pl. x., fig. E.

Jaw arcuate, flatly ribbed, the ribs indenting the concave margin.

Dentition, 35-1-35; varying from 27 to 40. Laterals about 9; varying from 8 to 10.

Central tooth rectangular, the length more than twice the breadth; the reflexed portion half the length of the base, slightly constricted and with a moderate point. The inner laterals like the central tooth, but broader and with the outer lobe more marked and notched, the notch getting gradually less outwards. Inner marginals with a long base and a short reflexed portion bearing a long oblique cutting point on the inner edge and a small cusp on the outer; outer marginals irregular, the breadth and length about equal, with a long oblique cutting point. The laterals pass gradually into the marginals, and the cutting point is longest in the middle of the marginals.

Hab. Auckland (T. F. Cheeseman).

HELIX ANTIPODA, Hombron and Jacquinot. Pl. x., fig. F.

Animal with the foot narrow, produced behind the shell; a caudal papilla and a mucous gland below it. Mantle subcentral, slightly reflected over the peristome of the shell. Colour pale grey, the anterior portion darker; peduncles and a line down each side of the head dark blue-black; mantle pale grey with dead white spots.

Jaw like that of *zealandia*.

Dentition, 35-1-35; varying from 31 to 36. Laterals about 12.

Central tooth rectangular, its length more than twice its breadth; the reflexed portion about half as long as the base, slightly constricted at about a third of its length, the point moderate. The first five or six laterals like the central tooth; the others oblique, with a large cutting point on the inner edge of the reflexed portion, and a small exterior cusp. Marginals with a small irregular base, and a long oblique cutting point, increasing in length to about the middle of the marginals and then decreasing.

Hab. Greymouth (R. Helms).

The shell varies very much in colour, sometimes being painted with alternating oblique narrow bands of yellowish white and rufous, sometimes almost entirely rufous, or pale brown.

THALASSIA (?) PROPINQUA, Hutton. Pl. x., fig. G, and pl. xi., fig. v.

Jaw arcuate, not tapering, with about 22 flat ribs, which slightly indent the concave margin.

Dentition, 31-1-31. Laterals 12.

Central tooth rectangular, the length more than twice the breadth; the reflexed portion triangular, slightly sinuated on the sides, about half the length of the base and with a moderate point. Inner laterals like the central tooth, but more deeply sinuated on the inner side; outer laterals bicuspid, the inner cusp larger and with a long point, the outer cusp with a small point. Inner marginals with a long acute point, and a small one inside it; outer marginals with the base as long as broad, and a single long point. The cutting points increase in size as far as the middle of the marginals and then decrease.

Hab. Southland (G. M. Thomson).

HELIX KIVI, Gray. Pl. ix., fig. A, and pl. xi., fig. 1.

Jaw composed of about 50 separate overlapping plates, the length of which is four or five times the breadth, the inner edge of one plate lying in front of the outer edge of the one next it; all the plates transversely striated. Central plate with a length of three times its breadth, the lower margin emarginate.

Dentition, 28-1-28. Laterals about 15.

Central tooth rectangular, the length twice the breadth, the reflexed portion not reaching half-way and slightly constricted at the sides, with a broad cutting point. Laterals with the reflexed portion sinuated on the inner margin, and an additional small point on the outer side. Inner marginals with a broad blunt double cutting point, with several small acute ones outside it; outer marginals with 3 or 4 acute points.

Hab. Auckland (Cheeseman).

HELIX GRANUM, Pfeiffer. Pl. ix., fig. L.

Animal elongated, the foot narrow, projecting behind the shell; mantle subcentral, rather anterior, included; eye-peduncles long, rather clavate; tentacles moderate. Colour white, finely speckled with dark grey above, in front of the shell, and on the head, eye-peduncles, and tentacles; edges and sole of the foot often with white streaks.

Jaw like that of *P. pilula*.

Dentition, 27-1-27. Laterals about 14.

Central tooth wedge-shaped, broader behind; the reflexed portion short with a small cusp on each side. Laterals like the central tooth, but the reflexed portion oblique, inclined inwards. Marginals with a broad base and numerous points, of which one near the inner side is longer than the rest.

Hab. Eyreton, N. Canterbury (C. Chilton).

PARYPHANTA PHLOGOPHORA, Pfeiffer. Pl. ix., fig. z, and pl. xi., fig. p.

Animal with the mantle subcentral, slightly reflected over the peristome of the shell, the margin entire; eye-peduncles moderate, thick, the tentacles short; tail depressed, rounded, with a mucous gland. Colour slate grey, the sole and sides of the foot orange.

Jaw arched, thick, tapering towards the ends, smooth, without ribs, the concave margin jagged.

Dentition, 21-1-21. Laterals 8.

Central tooth rectangular, longer than broad; the reflexed portion triangular, sinuated on each side, two-thirds the length of the base and with a large cutting point. First lateral like the central tooth but larger, the inner margin straighter and with a minute point; second to fourth laterals with the base nearly as broad as long, the reflexed portion deeply sinuated on the inner, less so on the outer side, a small point on the inner side: in the sixth to eighth laterals the inner side is less sinuated and the point becomes larger. Marginals broader than long, with three points of which the middle is the longest; in the outer marginals the two inner cutting points are equal and united.

Hab. Oxford, N. Canterbury (C. Chilton).

AMPHIDOKA CORNEA, Hutton. Pl. x., fig. A.

Jaw thin, slightly arcuate, smooth, faintly striated.

Dentition, 22-1-22. Laterals 8.

Teeth like those of *P. phlogophora* except the outer marginals in which the cutting points are more irregular and altogether absent in the last, which is minute.

Hab. Auckland (T. F. Cheeseman).

Animal dark slate grey, sole of the foot dirty yellowish; mantle mottled with grey. Mantle central, slightly reflected over the peristome; tail pointed, with a mucous slit.

Hab. Greymouth (R. Helms).

AMPHIDOKA COSTULATA, Hutton. Pl. x., fig. D.

Jaw, none seen.

Dentition, 14-1-14. Laterals 5 or 6.

Central tooth rectangular, almost as broad as long; the reflexed portion minute, tricuspid; the middle cusp reaching about half the length of the base. Laterals like the central tooth, but the middle cusp reaching the posterior margin. Marginals broader than long, tridentate; in the inner marginals the outer point is very small, and the two inner are united.

Hab. Auckland (T. F. Cheeseman).

PARYPHANTA CHIRON, Gray. Pl. x., fig. B.

Jaw, none seen.

Dentition, 17-1-17. Laterals 7.

Teeth like those of *P. phlogophora*.

Hab. Auckland (T. F. Cheeseman).

PARYPHANTA CREBRIFLAMMIS, Pfeiffer. Pl. xi., fig. G.

Jaw very delicate, membranaceous, smooth.

Dentition, 18-1-18. Laterals 7.

Central tooth rectangular, as broad as long; the reflexed portion tricuspid, the middle cusp reaching a half and the side-cusps a third of the length of the base. Inner laterals rather longer than broad, tricuspid, the reflexed portion constricted at the sides, the middle cusp reaching almost to the posterior margin, and with a small point: outer laterals with the inner side of the reflexed portion hollowed out; the outer side with a small constricted cusp, middle cusp with a large point. Inner marginals tridentate, the inner and middle points larger; outer marginals much broader than long, with a single dentate point, which gets smaller outwards and disappears altogether on the two last.

Hab. Greymouth (R. Helms).

PARYPHANTA JEFFREYSIANA, Pfeiffer. Pl. xi., fig. f.

Jaw, none. *Dentition*, 9-0-9.

Transverse rows of teeth forming an obtuse angle. Teeth robust, all aculeate, smooth, the points rounded; increasing in size from the first to the fifth and then decreasing. The first about equal to the ninth; the third equal to the eighth.

Hab. Auckland (T. F. Cheeseman).

PARYPHANTA CORESIA, Gray. Pl. xi., fig. e.

Jaw, none. *Dentition*, 9-0-9.

Transverse rows of teeth forming an obtuse angle. Teeth rather robust, all aculeate, smooth, the points rounded; increasing in size from the first to the fourth and then decreasing. The third as large as the fifth.

Hab. Auckland (Cheeseman).

The teeth are more slender than in *jeffreysiana*.

NANINA MARIE, Gray. Pl. ix., fig. r.

Jaw arcuate, not tapering, papillate, with about 33 flat ribs.

Dentition, 47-1-47, without distinction between laterals and marginals.

Central tooth rectangular, the length three and a half times the breadth; the reflexed portion less than half the base, constricted at the sides and with a moderate point. Laterals larger than the central tooth; the reflexed portion minute, not more than a quarter of the base, bicuspid, the inner cusp with a long, the outer with a small point. Towards the margin the teeth get smaller and the points nearly equal. The two outer are minute and without points.

Hab. Auckland (T. F. Cheeseman).

PHACUSSA HELMSI, Hutton. Pl. x., fig. i, and pl. xi., fig. w.

Jaw arcuate, not tapering, with 20 or 25 flat ribs which indent the concave margin.

Dentition, 28-1-28; varying from 26 to 30. Laterals 11 or 12.

Central tooth rather wedge-shaped, broader behind, the length nearly twice the breadth; the reflexed portion triangular, slightly sinuated at the sides, less than half the length of the base, with a moderate point. Laterals with the base rhomboidal; the inner with the reflexed portion half the length of the base, bicuspid, the inner cusp large with a moderate point, the outer cusp small without a point; outer laterals with the reflexed portion shorter and unicuspid, the point longer, reaching beyond the posterior margin of the base. Marginals aculeate, with a strong curved point, which is most developed in the centre of the marginals.

Hab. Greymouth (R. Helms).

This species differs from *Zonites* in having a ribbed jaw, in which respect it resembles *Zonites* (?) *lansingi*, Bland, from Oregon.

PHACUSSA FULMINATA, Hutton. Pl. x., fig. j.

Jaw like that of *P. helmsi*.

Dentition, 38-1-38. Laterals about 18.

Central tooth rectangular, the length nearly three times the breadth; the reflexed portion small, about a third of the length, constricted on the sides, the point small. Laterals bicuspid, the inner cusp much larger: inner laterals with the inner side emarginate, the cutting point small; outer laterals with the reflexed portion more oblique and its inner margin straight, the cutting point moderate. Marginals aculeate, with a long curved point.

Hab. Stewart Island (T. Kirk).

JANELLA BITENTACULATA, Quoy. Pl. x., fig. m.

Jaw delicate, smooth, broad, slightly arched, with a sub-quadrangular accessory plate proceeding backwards.

Dentition, 255-1-255.

Central tooth with a median cusp on the reflexed portion; the anterior margin simple or sinuated.

Hab. Christchurch (R. W. Fereday).

JANELLA MARMOREA, Hutton. Pl. x., fig. n, and pl. xi., fig. x.

Jaw like that of *J. bitentaculata*.

Dentition, 255-1-255.

Central tooth without a median cusp on the reflexed portion; the anterior margin emarginate.

Hab. Greymouth (R. Helms).

LEPTOPOMA PANNOSA, Hutton. Pl. x., fig. u.

Dentition, 3-1-3.

Central tooth longer than broad, constricted in the middle, rounded in front, and flat behind; anterior margin with five denticles, none on the basal part of the tooth. First lateral broad, with a very short stalk;

denticles four. Second lateral rhomboidal; the anterior margin with five denticles. Third lateral versatile, the base emarginate, the middle constricted, the outer posterior margin with three curved cusps.

Animal. Rostrum emarginate; tentacles short, slightly tapered, and rounded at the ends; the eyes on slight bulgings at their bases; foot short, not produced much beyond the operculum; tail rounded. Body and foot brown; tentacles and a band on each side of the head purple; rostrum broadly margined with white, and the tentacles minutely tipped with the same colour.

Hab. Greymouth (R. Helms).

LEPTOPOMA CALVA, Hutton.

The operculum and dentition resemble that of *L. pannosa*.

Hab. Greymouth (R. Helms).

REALIA TURRICULATA, Pfeiffer. Pl. xi., fig. H.

Dentition, 3-1-3.

Central tooth longer than broad, narrower behind, deeply constricted in the middle, the recurved margin with five denticles. First lateral oval with a short, rather broad, stalk, and five denticles. Second lateral oval with a short narrow stalk and six denticles. Third lateral sub-rhomboidal, pointed behind and constricted on the outer margin, with four denticles.

Operculum oval, of about three rapidly increasing whorls, the last of which is rather strongly transversely striated; nucleus nearer the centre than the margin.

Hab. Whangarei (Judge Gillies).

REALIA HOCHSTETTERI, Pfeiffer.

The dentition and operculum are much the same as in the last species.

Hab. Auckland (Judge Gillies).

B. *New Species.*

PATULA JESSICA, n. s.

Shell small, discoidal, widely umbilicated, ribbed; colour horny, largely radiately streaked and clouded with reddish brown, giving a general dark colour to the shell. Spire flat or slightly convex, apex often pushed in; whorls $4\frac{1}{2}$ to $5\frac{1}{2}$, very slowly increasing, rounded, with numerous rather close ribs, which are strongly sinuated on the upper surface, but straight and feebler below; ribs about 36 in the tenth of an inch, the interstices strongly striated with growth-lines, and more or less reticulated with spirals; suture impressed; umbilicus wide, perspective, showing all the whorls; aperture nearly vertical, rotundly lunar; peristome thin, flatly angled above, then regularly arched, the margins at right angles. Greatest diameter .17; least .15; length .08 inch.

Hab. Bealey, Canterbury (Dr. v. Haast).

PATULA BIANCA, n. s.

Shell minute, discoidal, widely umbilicated, finely ribbed; colour horny brown banded with darker. Spire flat, or slightly convex; whorls 4, slowly increasing, rounded, delicately ribbed; ribs about 55 in the tenth of an inch, the interstices striated; suture impressed; umbilicus broad, gradated; aperture slightly oblique, rotundly lunar; peristome thin, regularly arched; greatest diameter $\cdot 1$, least $\cdot 09$ inch.

Hab. Greymouth (R. Helms).

This species is allied to *P. corniculum*, but it is more finely ribbed, and the colours are different.

PATULA TIMANDRA, n. s.

Shell small, discoidal, broadly umbilicated, distantly ribbed; colour brown, obscurely banded with paler. Spire flat, or slightly convex; periphery rounded; suture impressed; whorls 4–5, slowly increasing, rounded, delicately striated with growth-lines, and with distant ribs, which are sinuated on the upper surface near the periphery, and straight below; ribs about 13 in the tenth of an inch; umbilicus very broad, perspective, gradated; aperture slightly oblique, rotundly lunar; peristome simple, the margins approaching, forming more than three-fourths of a circle. Greatest diameter $\cdot 12$, least $\cdot 10$; height $\cdot 05$ inch.

Hab. Auckland (Cheeseman).

PATULA SYLVIA, n. s.

Shell minute, discoidal, umbilicated, obliquely ribbed: colour very pale horny with faint thin radiating bands of chestnut on the upper surface. Spire flat or slightly convex; whorls $5\frac{1}{2}$, very slowly increasing, rounded, with delicate rather distant ribs which are very oblique on the upper surface, but transverse to the whorls on the lower surface; ribs about 18 in the tenth of an inch, the interstices rather strongly striated with growth lines; suture impressed; umbilicus rather wide, gradated; aperture slightly oblique, rotundly lunar; peristome thin, regularly arched, the upper margin advancing. Greatest diameter $\cdot 12$; least $\cdot 1$; height $\cdot 06$ inch.

Hab. Bealey (Dr. v. Haast); under logs in the beech forests.

FRUTICICOLA ADRIANA, n. s.

Shell small, discoidal, narrowly umbilicated, finely ribbed; colour pale horny with spots and angular streaks of chestnut. Spire flat; whorls $4\frac{1}{2}$, slowly increasing, rounded, delicately ribbed; ribs about 50 in the tenth of an inch, the interstices reticulated; suture impressed; umbilicus narrow, but open; aperture slightly oblique, rotundly lunar; peristome thin, regularly arched, the columellar margin slightly reflected. Greatest diameter $\cdot 16$; least $\cdot 14$; height $\cdot 07$ inch.

Hab. Near Christchurch (R. Brown).

ENDODONTA MARINA, n. s.

Shell conoidal, sub-perforated, striated; colour pale yellowish horn, sometimes faintly banded with chestnut, and tessellated with the same colour on the keel. Spire conoidal, rather obtuse; whorls $5\frac{1}{2}$, slowly increasing, rather flattened, the last acutely keeled, delicately but rather irregularly striated; suture margined; umbilicus covered; aperture vertical, sub-rhomboidal; peristome thin; columella with a large acute plait; parietal plaits two, one on the penultimate whorl near the outer side, the other on the right lip above the keel. Greatest diameter $\cdot 13$, least $\cdot 11$, height $\cdot 1$ inch.

Hab. Auckland (T. F. Cheeseman).

ENDODONTA NERISSA, n. s.

Shell conoidal, sub-perforated, striated; colour pale yellowish horny with indistinct bands of chestnut and spots of the same colour on the keel. Spire flatly conoidal, obtuse; whorls $5\frac{1}{2}$, slowly increasing, rather flattened, the last acutely keeled, delicately and rather distantly striated; suture margined; umbilicus covered; aperture sub-vertical, sub-rhomboidal; peristome thin; columella with a large acute plait; parietal plaits six, two on the penultimate whorl, of which the outer is the larger, one on the right lip above the keel, and three blunt plaits on the basal lip. Greatest diameter $\cdot 11$, least $\cdot 1$, height $\cdot 07$ inch.

Hab. Auckland (T. F. Cheeseman).

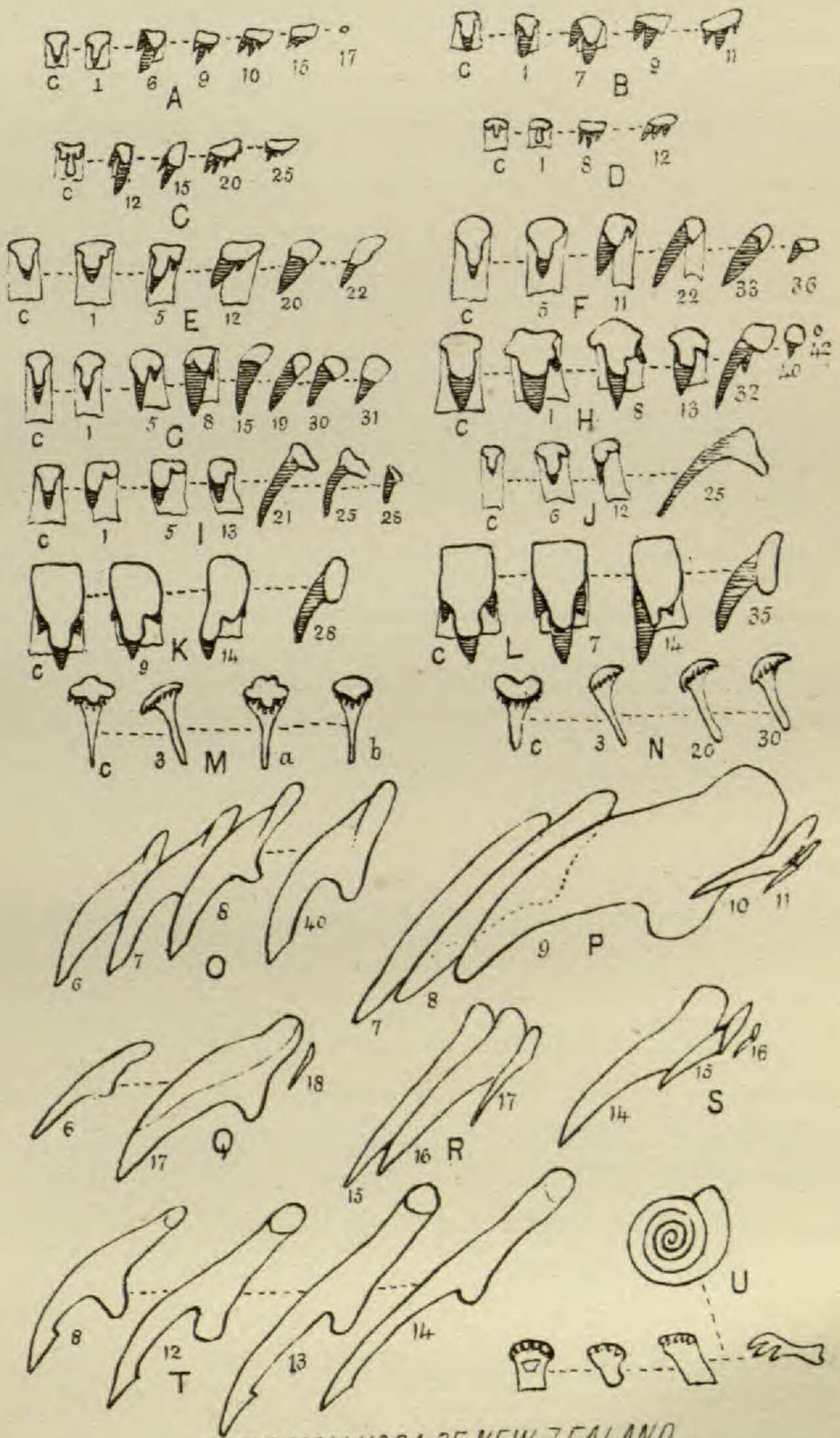
PHRIXGNATHUS CELIA, n. s. *H. fatua*, Hutton, Trans. N.Z. Inst., xiv., p. 153 (not of Pfeiffer).

Shell small, depressed, smooth, shining, umbilicated; colour horny with reddish-brown bands. Spire conoidal, depressed; whorls $5\frac{1}{2}$, slowly increasing, the last obtusely carinated, faintly striated; the base delicately spirally striatulated; suture impressed; umbilicus narrow, but always well marked; aperture oblique, sub-rhomboidal; peristome thin, the columellar margin slightly reflected. Greatest diameter $\cdot 15$, least $\cdot 12$, height $\cdot 1$ inch.

Animal with the mantle rather anterior, included; tail acute, without any mucous gland; peduncles long, slightly clavate, approximated at their bases. Colour greyish-brown, the anterior portion of the head darker; sometimes a dark transverse band under the shell.

Hab. Dunedin (F. W. H.).

This species differs from *H. fatua* in size and colour as well as in being thinner, less conical, and more finely striated. From *H. glabriuscula* it differs in having the whorls angled; and from *P. conella* in the umbilicus being much broader, and the spire more depressed.



LAND MOLLUSCA OF NEW ZEALAND.

F. W. Hutton, del.

PHRIXGNATHUS PHRYNIA, n. s.

Shell minute, conoidal, umbilicated, the epidermis plicated: colour pale horny, radiately streaked with rufous. Spire conoidal, acute; periphery obtusely angled; suture impressed; whorls 5, rounded, smooth, the epidermis rather distantly wrinkled; umbilicus narrow, open; aperture slightly oblique, rotundly lunar; peristome thin, the margins approximating; the columellar margin scarcely reflected. Greatest diameter .1, least .09; height .09 inch.

Hab. Wanganui (T. W. Kirk).

Very near *P. celia*, but differs in the plaited epidermis.

PHRIXGNATHUS ARIEL, n. s.

Shell small, depressed, scarcely shining, finely ribbed, subperforate; colour pale yellowish horny. Spire conoidal, depressed, with 5 slowly increasing whorls, the last obscurely carinated; finely striately ribbed, the base delicately spirally striatulated; suture impressed; umbilicus covered; aperture oblique, lunate; peristome thin, the columellar margin reflected. Greatest diameter .13, least .12; height .1.

Hab. Auckland (T. F. Cheeseman). A single specimen only.

Distinguished from the other species of the genus by being finely ribbed; and from *H. pœcilsticta* by the columella not being thickened, and the suture not margined. From *H. granum* it differs in colour, and in having the umbilicus covered.

Jaw as in *P. celia*. *Dentition*, 32-1-32. All the teeth longer than broad, and the reflexed portion very short. Central tooth unicuspid; laterals and marginals bicuspid, all with minute points.

PHRIXGNATHUS TITANIA, n. s.

Shell globosely conoidal, umbilicated, striated; pale horny irregularly banded with chestnut. Spire conoidal, rather obtuse; periphery obtusely carinated; suture margined; whorls 5-6, rounded, very finely striated; umbilicus broad, perspective; aperture very slightly oblique, subcircular; peristome thin, the margins closely converging; columellar margin not reflected. Greatest diameter .14, least .12; height .10 inch.

Hab. Dunedin (F. W. H.).

Differs from *P. sciadium* in the higher spire and the obtuse keel.

PHRIXGNATHUS (?) HAASTII, n. s.

Shell minute, depressed, smooth, shining, umbilicated; colour horny, usually with irregular radiating bands of reddish brown and white. Spire conoidal, depressed; whorls $4\frac{1}{2}$, slowly increasing, rounded, the last subcarinated, obscurely distantly striated; suture impressed; umbilicus moderate, pervious, showing the penultimate whorl; aperture subvertical, lunately subcircular; peristome thin, arched, the margins not approaching. Greatest diameter .12, least .1; height .07 inch.

Hab. Mount Somers, Canterbury (Dr. von Haast), on limestone cliffs.

Distinguished by its smooth shining surface and brown and white bands. Its generic position must remain doubtful until the dentition is known.

PFEIFFERIA (?) CRESSIDA, n. s. Pl. ix., fig. x., and pl. xi., fig. n.

Shell turbinate, depressed, thin, translucent, striated, umbilicus covered; fulvous horny. Spire convex; whorls $5\frac{1}{2}$, slowly increasing, rounded, shining, finely irregularly striated or plaited: suture impressed: umbilicus very narrow, covered by the peristome: aperture slightly oblique, lunately rotund; peristome thin, regularly arched, the columellar margin slightly thickened and reflected over the umbilicus. Greatest diameter $\cdot48$, least $\cdot38$; height $\cdot33$ inch.

Hab. Southland (G. M. Thomson).

Jaw arcuate, flatly ribbed, the ribs indenting both margins.

Dentition, 35-1-35; varying from 32 to 37. Laterals about 17.

Central tooth rectangular, twice as long as broad; the reflexed portion half the length of the base, slightly constricted on each side, and with a minute cutting point. Laterals with the reflexed portion bicuspid, the inner cusp carrying a cutting point which gets longer further from the centre; outer cusp notched in the middle. Marginals broader than long with several cutting points; on the inner marginals the two points at the inner corner are larger than the others; the outer marginals are irregular and the points disappear altogether.

In this species the shell is seen, under the microscope, to be finely obliquely reticulated, the crossing striæ having diagonal directions. I formerly mistook it for *H. guttula*, but in that species the shell is described as very smooth, with an inconsiderable, sub-margined suture, and the last whorl as callous beneath, in all which points it differs from our species. It is doubtfully referred to the genus *Pfeifferia* as the animal is not known.

GERONTIA CORDELIA, n. s.

Shell sub-discoidal, widely umbilicated, striated; colour pale horny, marbled with reddish brown and covered by a shining yellow epidermis. Spire convex; whorls $4\frac{1}{2}$, slowly increasing, rounded, with tolerably regular, rather crowded, and rather coarse striæ of old growth-lines; suture impressed; umbilicus broad, conical, showing all the whorls, but not graded; aperture slightly oblique, sub-circular; peristome thin, right margin descending, columellar margin rapidly ascending but not vertical, the two margins not approaching. Greatest diameter $\cdot32$, least $\cdot27$; height $\cdot18$ inch.

Hab. Titirangi, Auckland (T. F. Cheeseman).

I place this species in *Gerontia* from the general appearance of the shell, but I do not know the animal nor the dentition. It differs from *G. pantherina* in being more convex, in the epidermis not being plaited, in being more coarsely striated, in the right margin descending, in the aperture being less oblique, and in its colours.

AMPHIDOKA PERDITA, n. s. Pl. xi., figs. c and q.

Shell thin, shining, pellucid, depressed, umbilicated; colour pale olive horny. Spire convex; whorls $3\frac{1}{2}$ –4, rapidly increasing, rounded, finely irregularly striated; suture deeply impressed; umbilicus narrow, pervious; aperture oblique, lunately circular; peristome thin, the right margin joined closely to the next whorl. Greatest diameter .23, least .2; height .18 inch.

This shell differs from *H. chiron* in being higher, the umbilicus narrower, and the right margin of the peristome not advancing. From *H. novarae* it differs in being striated, in the suture being impressed and the spire convex. From *A. cornea* it differs in being umbilicated.

Animal with the mantle central, slightly reflected over the peristome of the shell; tail pointed, depressed, with a mucous gland. Colour dark slate-grey, the mantle marbled with black and white; sole of the foot dirty yellowish.

Jaw arcuated, narrow, not tapering, smooth, but with 30 or 40 delicate rounded ribs.

Dentition, 20–1–20. Laterals 6 or 7.

Central tooth rectangular, longer than broad; the reflexed portion covering two-thirds of the base; the sides concave, with a cutting point on each; the apical cutting point moderate. Laterals like the central; but the cutting points larger, and the outer margin of the reflexed portion more excavated. Marginals quadrangular, broader than long, the inner with three large cutting points; the outer with a single broad dentated cutting edge; the last without any cutting edge.

Hab. Greymouth (R. Helms).

AMPHIDOKA JACQUENETTA, n. s. Pl. x., fig. c.

Shell perforate, flattened, keeled; colour pale brown. Spire flat, or very slightly convex; whorls $2\frac{1}{2}$, rapidly increasing, very slightly convex, the last acutely keeled and rounded on the lower surface; smooth, delicately striated with growth-lines, the surface very finely and irregularly diagonally reticulated, and crossed with faint distant spiral striæ; suture impressed; umbilicus very narrow; aperture (?). Greatest diameter .2, least .12; height .06 inch.

Distinguished by its keeled whorls.

Animal unable to withdraw completely into its shell; the mantle rather broadly reflected over the margin; eye-peduncles short and stout, separated at their bases; orange-yellow, the upper sides thickly marbled with black; head between the peduncles bright orange; the peduncles and tentacles black.

Jaw nearly straight, thin, striated in the centre, and slightly folded towards the ends.

Dentition, 28-1-28. Laterals about 9.

Central tooth rectangular, rather longer than broad; the reflexed portion tricuspid, the lateral cusps hollowed on the outer side, median cusp clavate, reaching nearly or quite to the posterior margin of the base. The laterals are like the central tooth, but the cutting point on the median cusp gets larger as they recede from the centre; the outer laterals have a small point on the inner cusp, and the outer cusp vanishes. Inner marginals bicuspid, each with a cutting point, the inner of which is the smaller; the middle marginals have about 5 points, of which the two inner are much larger; in the outer marginals these two larger points diminish, and at last all disappear.

Hab. Greymouth (R. Helms).

AMPHIDOKA LAVINIA, n. s.

Shell sub-discoidal, umbilicated, ribbed; colour yellow horny, mottled with rufous on the upper side. Spire flat; periphery rounded; suture scarcely impressed; whorls $3\frac{1}{2}$, rapidly increasing, rather flattened above, rounded below; upper surface not shining, evenly and closely ribbed; ribs about 18 in the tenth of an inch; lower surface smooth, shining, longitudinally striated, and irregularly spirally striatulated; umbilicus moderate, showing all the whorls; aperture oblique, rotundly lunar; peristome thin, the margins approaching; columellar margin not reflected. Greatest diameter .5, least .4; height .25 inch.

Hab. Palmerston, Wellington (T. W. Kirk).

CHAROPA MIRANDA, n. s. Pl. ix., fig. w, and pl. xi., fig. s.

Shell minute, depressed, imperforate, finely ribbed; colour pale horny tessellated with rufous. Spire flatly conoidal, obtuse; whorls 5-6, rounded, very slowly increasing; the first smooth, the second and third with rather distant, delicate ribs, which get closer and after the third whorl are very close and fine, about 50 in the tenth of an inch; umbilicus very narrow, covered; suture impressed; aperture subvertical, lunate; peristome simple, about three-fourths of a circle, the columellar margin slightly callous and reflected. Greatest diameter .15, least .14; height .11 inch.

Animal. Mantle subcentral; tail truncated, with a mucous gland below a papilla; eye-peduncles thick, approximated at their bases. Anterior portion of the animal, including the eye-peduncles and tentacles, pale-purplish, the peduncles darker; a narrow white line down the back; foot and the rest of the body yellowish white.

Jaw rudimentary; flatly ribbed, the ribs indenting the concave margin.

Dentition 17-1-17. Laterals 8.

Central tooth rectangular, the base longer than broad; the reflexed portion tricuspid, the middle cusp covering three-fourths of the base. Laterals with the reflexed portion larger, reaching the posterior margin of the base, the inner side slightly indented, the outer with a well-marked cusp; median cusp with a long point. Marginals broader than long with four or five points, the inner of which is much longer than the others.

Hab. Greymouth (R. Helms).

CHAROPA PLANULATA, n. s. Pl. ix., fig. J.

Shell small, depressed, sub-perforated, closely ribbed, rather shining: colour horny brown, sometimes clouded with rufous. Spire slightly elevated, flatly convex; whorls $4\frac{1}{2}$ -5, slowly increasing, rounded, ornamented with fine, slightly undulating, ribs, about 35 to 40 in the tenth of an inch, the interstices finely striated with growth-lines; last whorl rounded at the periphery, but slightly flattened below: suture impressed: umbilicus very narrow and generally covered over by the reflected columellar lip: aperture sub-vertical, transversely rotundly lunar; peristome thin; the right margin descending, then arched; columellar margin thickened, rapidly ascending and slightly reflected; basal margin rather flattened: interior slightly callous. Greatest diameter .15, least .12; height .6 inch.

Jaw apparently absent.

Dentition, 11-1-11. Laterals 4. One specimen examined had only 9-1-9 teeth.

Central tooth small, rectangular, longer than broad, the reflexed portion short, tricuspid; the middle cusp not reaching much more than half the length of the base. Laterals with the reflexed portion tricuspid and longer than that of the central tooth, the middle cusps reaching almost to the posterior margin of the base; lateral cusps constricted on the outer side. Marginals tridentate, the outer ones bidentate.

Hab. Auckland (T. F. Cheeseman).

CHAROPA (?) CASSANDRA, n. s.

Shell depressed, sub-perforate, closely ribbed: colour pale horny with longitudinal angulated bands of chestnut. Spire conoidal, depressed, obtuse; whorls $5\frac{1}{2}$, gradually increasing, very finely ribbed; ribs about 20 in the tenth of an inch; periphery rounded: suture impressed; umbilicus

very narrow, almost covered; aperture rather oblique, rotundly lunate; peristome acute, straight, the margins not approaching; columellar margin obliquely ascending, slightly reflected and thickened. Diameter .5 inch.

Hab. Napier.

The generic position of this shell is very doubtful, it somewhat resembles *H. igniflua*, but differs in its very narrow umbilicus. The only specimens I have seen were old and rubbed.

THERASIA TAMORA, n. s.

Shell small, conical, umbilicated, with membranous plaits: colour horny brown. Spire conical, rather acute; periphery sub-angled; suture impressed: whorls 5-6, rather flattened, finely striated and with irregular distant membranous ribs, easily rubbed off: umbilicus narrow, but open: aperture transversely oval; peristome thin, the margins converging.

Greatest diameter .16, least .14; height .10 inch.

Hab. Auckland (T. F. Cheeseman).

Differs from *celinda* in the open umbilicus, and from *decidua* in being more conical and smaller. I place it with *celinda*, *decidua*, and *ophelia* into a separate genus called *Therasia*, having the dentition of *Charopa* with the shell of *Thalassia*.

THERASIA THAISA, n. s. Pl. ix., fig. m., and pl. xi., fig. t.

Shell rather solid, depressed, umbilicated, striated; colour pale brown, usually irregularly banded and marked with reddish brown. Spire conoidal, obtuse; whorls 5-5½, slowly increasing, rather flattened, more or less obscurely angled, strongly but irregularly striated: suture impressed: umbilicus rather narrow, about one-seventh of the least diameter of the shell: aperture rather oblique, rotundly lunate; peristome thin, the columellar margin rapidly ascending and rather reflexed. Greatest diameter .4, least .35; height .28 inch.

Animal elongated; the foot long and narrow, reaching beyond the shell, rounded behind, slightly truncated and with a mucous gland situated under a caudal papilla. Mantle sub-central, included; body roughish: peduncles long, cylindrical, approximated at their bases; tentacles moderate. Top of the head yellowish white, peduncles, tentacles, and a line down each side of the head dark grey; a broad longitudinal band of white, with a dark grey line in the centre, runs along each side, and below this band the foot is edged with alternate broad grey and narrow white transverse bands.

Jaw arcuate, with flattened ribs which indent the concave margin.

Dentition, 27-1-27; varying from 26 to 28. Laterals about 16.

Central tooth rectangular, longer than broad; the reflexed portion short, sharply constricted near the base and with a small cutting point. Laterals with the base oblique, the reflexed portion bicuspid, the inner cusp single,